

METHOD FOR PROLONGING THE LIFE OF LITHIUM ION BATTERIES

ABSTRACT

A method for reconditioning lithium ion batteries in-situ to restore their capacity. The battery capacity is reduced by a reversible mechanism. The process for reconditioning a battery includes providing a power source and connecting the power source to a lithium ion battery. The lithium ion battery is slowly discharged at a predetermined voltage sufficiently high so as not to damage the battery cells and sufficiently low so to completely extract all lithium from the negative electrode and fully reincorporate it in the positive electrode, while the battery is being completely discharged. After the battery has been completely discharged, power is provided to the battery from the power source to recharge the lithium ion battery so as to uniformly redistribute the lithium in the negative electrode. The discharge cycle is repeated a plurality of times. Upon completion of recharging, the capacity of the battery is restored.